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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/764,377	01/22/2004	W. Thomas Novak	NIKOP037/PA0502	1500
22434	7590	03/18/2005	00/04683	
BEYER WEAVER & THOMAS LLP			EXAMINER	
P.O. BOX 70250			NGUYEN, HUNG	
OAKLAND, CA 94612-0250				
			ART UNIT	PAPER NUMBER
			2851	

DATE MAILED: 03/18/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

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Office Action Summary

Application No.

10/764,377

Applicant(s)

NOVAK, W. THOMAS

Examiner

Hung Henry V. Nguyen

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 22 January 2004.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-21 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-21 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 22 January 2004 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date 1/2004.
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____.

DETAILED ACTION

Drawings

1. The drawings are objected to because they are informal drawings and only acceptable for examination. Formal drawings are required.

Claim Rejections - 35 USC § 112

2. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

3. Claim 4 is rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

As to claim 4, the recitation of “wherein the first reference beam...such that...*without the roll and pitch of the wafer stage substantially influencing the computation*” is vague and indefinite. It is not understood how the interferometer is configured so that the computation device can compute the height of the wafer stage as claimed.

Claim Rejections - 35 USC § 102

4. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

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5. Claims 1-21 are rejected under 35 U.S.C. 102(b) as being anticipated by Loopstra et al (U.S.Pat. 6,020,964).

As to claims 1, 8, 9, 17-21, Loopstra et al discloses a lithography system and corresponding method for projecting a pattern on wafer by a projection beam preliminarily determining a surface profile of the wafer on a stage and subsequently introducing the stage with the wafer into the projection beam, the lithographic system comprising all basic features of the instant claims: an illumination source (LA); an optical system (LS); a reticle stage (MA) for holding a reticle (MA); a wafer stage (WT) having a wafer chuck (WC) for holding a wafer (W); the wafer stage having a first mirror (159) and a second mirror (165) located at specified positions on the wafer stage with respect to the wafer chuck (see figures 6-7); an interferometer system (100) positioned on one side of the wafer stage and configured to generate and reflect at least two measuring beams off the first and second mirrors on the wafer stage respectively and a computation device configured to measure the height of the wafer on the wafer chuck on height information received from the reflected two measuring beams (MAX7, MAX8).

As to claim 2-4, 10-12, Loopstra et al discloses (figure 6) the interferometer is configured to generate the first and second reference beams (bz1r, bz2r) and to cause the first and second reference beams to be reflected off the wafer stage such that two height measurement data points are optically generated by combining the first and second reference reflected beam and the second reference reflected beams from the first and second reflected beams respectively whereby the height of the wafer is computed via the computing device (see col.16, lines 7-23).

As to claims 5-6, and 13-14, Loopstra further discloses that the mirror (159) is positioned on a first side of the wafer stage adjacent the interferometer and the second mirror

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(165) is located on a second side opposite the first side on the wafer stage (see figure 6 for example) and the first and second mirrors are positioned at 45 degree angle with respect to the two measuring beams respectively.

As to claims 7 and 15, Loopstra et al discloses the two height measurement data points are optically generated by subtracting the first and second reference reflected beams from the first and second measurement beams respectively (see col.15, lines 20-35).

Prior Art Made of Record

6. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

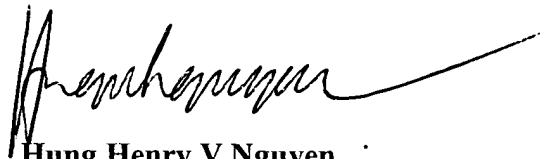
Yamasaki et al (U.S. Pat. 6,122,036) and Ukaji (U.S.Pat. 6,285,457) discloses apparatuses for detecting the position of the wafer mounted on the wafer stage and have been cited for technical background.

7. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Hung Henry V. Nguyen whose telephone number is 571-272-2124. The examiner can normally be reached on Monday-Friday (First Friday off).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Judy Nguyen can be reached on 571-272-2258. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



Hung Henry V Nguyen
Primary Examiner
Art Unit 2851

hvn
3/14/05